

GHS Safety Data Sheet

SDS No. : COO05PAEG

Date Issued : 2002/10/16

Last updated : 2024/06/04

Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: Co₃O₄ Cobalt (II,III) oxide

Product number:	Purity	Form	Size or Shape
COO05PB	99.7%(2N7)	powder	—
COO09PB	99.9%(3N)	powder	—
COO10PB	99.99%(4N)	powder	—
COO12PB	99.7%(2N7)	powder	—
COO01GB	99.7%(2N7)	grains by sintering powder	—
—	99.9%(3N),Others	tablet & target	Various sizes, Various shapes

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.

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Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Respiratory sensitization : Category 1 Skin sensitization : Category 1 Carcinogenicity : Category 2	No data available	Flammable solids : Not classified Pyrophoric solids : Not classified Self-heating substances and mixtures : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label:



Pictograms or symbols:

Warning word: DANGER

Hazard information	Description of precaution
May cause allergy or asthma symptoms or breathing difficulties if inhaled May cause an allergy skin reaction Suspected of causing cancer	Obtain special instructions. Read and understand all safety precautions before handling. Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. Take off the contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN: Remove immediately all contaminated clothing and rinse skin with water/shower. Then wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell.



High Purity Materials

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Store locked up.

Dispose of contents/ container in accordance with local/national regulations.

Section 3. Composition / information on ingredients

Chemical or common name:	Tricobalt tetraoxide, Cobalt(II,III) oxide
Chemical formula:	Co ₃ O ₄
Single Substance or Compound:	Single substance
Composition:	100%
CAS #:	1308-06-1
RTECS#:	GG2500000
TSCA inventory :	listed
EINECS:	2151572

Section 4. First aid measures

Eye contact:	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.
Skin contact:	Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues.
Inhalation:	Remove the exposed person immediately and provide fresh air. Get medical attention.
Ingestion:	Rinse mouth and throat with water. Get medical attention immediately.

Section 5. Fire fighting measures

Extinguishing media:	Use media appropriate for surrounding fire.
Fire fighting:	The product is not combustible. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.

Section 6. Accidental release measures

Personal Precautions:	Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.
Environmental hazard precautions:	Shut off leak if without risk. Prevent flow out to river, etc. so as not to badly affect.
Method for containment and cleaning up:	Indoor leakage: Ventilate as much as possible until the cleaning is completed. Outdoor leakage: Work from the windward and evacuate the leeward crowd. Gather up, pack in closed container as much as possible. Carefully collect remnant and move to a safe place.

Section 7. Handling and storage**Precautions to be taken in handling:**

Safe handling:	Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen. Avoid prolonged or repeated exposure.
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Precautions to be taken in storage:

General precautions:	Store the material in a sealed container. Store in a cool, dry, well ventilated and dark place away from incompatible materials.
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Section 8. Exposure controls / personal protection

Exposure guideline:

Chemical Name	ACGIH(2024) TLV-TWA mg/m ³	OSHA(2006) PEL-TWA mg/m ³
Cobalt inorganic compounds (as Co)	0.02(I)	—

I: Inhalable particle

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, impervious gloves, protective wear, protective boots etc.

Section 9. Physical and chemical properties

Color and Form: Black solid, odorless
 Chemical formula: Co₃O₄
 Formula weight: 240.8
 Melting point: 900~950 °C(decomposes)
 Specific gravity: 6.11 g/cm³
 Solubility: Insoluble; water
 Soluble; Acids
 Flammability: Non-combustible substance
 Oxidation: No data available

Section10. Stability and reactivity

Stability: Stable in closed container under room temperature.
 Reactvity: When heated above 900 °C, Co₃O₄ loses oxygen and becomes CoO.
 Condition to avoid: Heat
 Incompatibility: Hydrogen peroxide

Section11. Toxicological information

Acute toxicity: GHS : No data available
 Skin corrosive / irritation: GHS : No data available
 Serious eye damage / irritation: GHS : No data available
 Respiratory sensitization: GHS : Category 1 ;
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Skin sensitization: GHS : Category 1 ; May cause an allergy skin reaction.
 Germ cell mutagenicity: GHS : No data available
 Carcinogenicity: GHS : Category 2 ; Suspected of causing cancer.
 Carcinogenicity:

Chemical Name	ACGIH (2024)	IARC (2024)	NTP (2021)
Cobalt inorganic compounds	A3	3	—

ACGIH A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans.

IARC 3 The agent is not classifiable as to its carcinogenicity to humans.

Reproductive toxicity: GHS : No data available
 Specific target organ toxicity
 —single exposure: GHS : No data available
 —repeated exposure: GHS : No data available
 Aspiration hazard: GHS : No data available



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Section12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

—acute toxicity: GHS : No data available

—chronic toxicity: GHS : No data available

Hazardous to the ozone layer GHS : No data available
No Freon or Halon

Fish toxicity: No data available

Degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Section13. Disposal considerationsDisposal method: User of the product should contract with the local government or licensed
'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN classification: Not hazardous

UN number: None

HS code: 2822.00

Marine pollution: None

Precautions: Container should be transported in a secure position, in a well-ventilated vehicle.

Section 15. Regulatory information

TSCA inventory: Listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

This SDS is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

